

Net Income's Bandwidth: An Examination of Earnings-Based Performance Metrics

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Corporate financial statements are the scorecards on a company's management team. Numerous stakeholders scour the numbers and narratives presented in those statements seeking to glean insights, acquire understanding, and render evaluations. For many, no single metric in that evaluation carries more weight than net income, the summary measure of performance reported on the required income statement (Graham *et al.*, 2005). Although it has the look of precision, net income is known to be the result of numerous financial reporting choices made by management. But just how much do those choices influence what is reported? And, how large might the range of reported net income, and other related performance measures, be when choosing from a set of acceptable financial reporting alternatives? Dichev *et al.* (2013 and 2016: 22) (see also Ryan, 2014) provide an indication of the views of one important user group—based on a survey of almost 400 CFOs, corporate earnings per share (EPS) could differ from reported EPS by an estimated average of ten percent just by utilizing the allowable “discretion *within* [emphasis added] generally accepted accounting principles (GAAP).” The discretion associated with financial reporting choices does not negate the importance of net income as a performance metric. Rather, it underscores the need for users of financial statement data to be aware of, and to be able to quantify, the impact of available discretion on the amounts reported.

More specifically, and primarily for non-accounting readers, the purposes of this paper are two-fold. First, it provides a straightforward framework that those evaluating firm performance might use when assessing the bandwidth surrounding reported net income-related metrics. The focus is on the financial reporting choices available for four common balance sheet accounts: inventory, accounts receivable, fixed assets, and

healthcare liabilities. These balance sheet accounts are selected for analysis because the financial reporting choices for them individually, and collectively, are likely to have an associated material impact on reported net income for any given year. The second purpose is to provide an illustrative, single-year analysis that documents the magnitude of the possible range of net income if a different combined, and arguably reasonable, set of financial reporting choices had been made to measure these four common accounts. Thus, this study provides useful descriptive evidence for those who study, evaluate, and rely on net income-based performance metrics.

The analysis is performed on a sample of 89 S&P 500 firms for the year 2012. In short, it reveals evidence of a substantial bandwidth when different financial reporting choices are made. And, in some cases, on average, the potential changes are materially greater than ten percent depending on the particular net income-related performance metric. The documentation of such a large range should be of interest to a variety of stakeholders. First, the Securities and Exchange Commission (SEC) requires companies to bring critical accounting policies (CAPs) to the attention of financial statement users (Holtzman, 2007). The findings reported here indicate that more pointed guidance might be useful, particularly as it relates to providing quantitative assessments on the impact of managerial discretion on the financial statements' reported amounts. Second, for practitioners this study confirms CFOs' opined average ten percent bandwidth for a single year's reported earnings per share and documents that for many firms it is larger. In addition, insightful descriptive data is reported for a variety of industries, and of note, a framework is provided for net income bandwidth estimation that practitioners can apply in evaluations of their own firm's sensitivity to financial reporting choices, or those of key competitors, customers, and/or acquisition targets. Third, by combining the effects of four financial reporting choices and documenting their financial performance metric impact, this study expands the existing financial research that primarily evaluates the capital market implications of a single accounting choice. Finally, for educators teaching courses that use published financial statement data, the analysis provides an interesting set of quantifications that highlight for students the range produced by the alternatives that could be feasibly adopted by corporate managers when reporting earnings.

FINANCIAL REPORTING DISCRETION

Accounting Quality: Method and Assumption Choice

Financial reporting regulators permit some financial reporting discretion, intended to aid in the customizable portrayal of the financial summary a company conveys for its constituencies. An open empirical issue, however, is the extent to which published financial data supports recent assertions that the possible range of net income (i.e., its bandwidth) is material due to different financial reporting choices (Dichev *et al.*, 2013 and 2016), and what those range effects are on the popular performance metrics of earnings per share, return on sales, asset turnover, financial leverage, and return on equity. Indeed, Gross *et al.* (2014: 763) state that: "managers, investors, and financial statement users need to understand how [financial ratios and other indicators] change and revise how such information is interpreted..." due to different financial reporting methods.

A body of established financial research has examined, broadly speaking, how the discretion afforded managers in preparing financial statements affects the quality of firms' reported net income. These studies most commonly examine the capital market implications of specific accounts and their measurement issues. Examples include: Landsman *et al.* (2008) who evaluate off-balance sheet securitizations; Lev and Sougiannis (1996) who investigate the capitalization versus expensing of research and development costs; and Jackson and Liu (2010) who document the management of accounts receivable reserves as a means to meet or beat analyst forecasts.¹ Higher quality net income, in general, provides more and/or better information about a firm that is relevant for decision-making (Dechow *et al.*, 2010).

The issue of bandwidth investigated in this study provides additional insights related to the notion of "accounting quality." Financial statement data feeds into an array of widely-used financial performance measures important to stakeholders both inside and outside the firm. The more potential variance in a reported financial measure that is not readily transparent and understood, the more decision-making based on those measures will possibly suffer. And the affected decisions, of course, do not simply relate to measures of corporate value by those outside the firm. Gentry and Shen (2010), among others, have shown that financial statement profitability represents a dimension of firm performance distinct from market performance. Because of this it is important for those engaged in financial performance analysis, at any level, to be savvy about the potential impact of financial reporting discretion on the financial data they use.

Whenever a monetary amount in a corporate balance sheet or income statement is a function of the discretion available to the preparers of those financial statements, a related financial reporting requirement arises. That requirement is two pronged. First, managers are expected to narratively describe the key financial reporting choices they have made—both the accounting methods and key estimates used. Such disclosures are found in an annual report's financial statement footnotes and the Management Discussion & Analysis (MD&A) sections (SEC, 2002). Second, for some financial statement accounts, managers must also provide a limited sensitivity analysis of their key accounting-related estimates if the related financial statement amounts would have been materially affected. During the past 15 years, the SEC has provided more guidance on this dual-focused requirement under the rubric of Critical Accounting Policies (CAPs) disclosures. In this regard, Holtzman's (2007) study of numerous corporate CAPs identifies 28 different topics discussed by companies. Levine and Smith (2011) highlight 25. Both studies note that not every company discusses all of the identified CAPs nor identical subsets. In particular, they document that on average, firms identify six to seven policies as critical, and they find an increased likelihood of more disclosures as ex ante litigation risk for the firm is higher. Indeed, the very "goal of CAPs is to better describe the multidimensionality of the (single) numbers included in the financial statements" (Levine and Smith, 2011: 44).

The focus of this paper is to quantify the earnings-related bandwidth arising from four common financial reporting choices available to management preparers of corporate balance sheets and income statements—two where a choice in financial reporting *accounting method* must be made, and two where financial reporting *accounting*

¹Dechow *et al.* (2010) provide a comprehensive overview of all aspects of earnings quality, including evidence on individual proxies for firms' earnings.

estimates must be made. A four-reporting choice focus, with a key performance metric bandwidth-quantification purpose, is a unique contribution of this study. Relatedly, the intent is to also inform interested non-financial managers and investors; to speak to issues of importance to financial reporting regulators; and to more robustly pique the curiosity of accounting and finance researchers and educators. Briefly described below are the fundamental reporting issues for each of these four financial reporting choices.

Accounting Method Options: Inventory and PPE

The first accounting method option explored pertains to the “inventory” asset account on a balance sheet. For a retailer, inventory is merchandise available for sale. For a manufacturer, it is the raw materials, work-in-process, and finished goods that align with its general stages of production. For typically large retailers or manufacturers, there are numerous transactions each year that increase (e.g., purchases) and decrease (e.g., sales) inventory on hand and, thus, the balance sheet inventory account. Consider that an auto parts supplier, for example, must keep records of the costs of brakes purchased from its suppliers. When those brakes are subsequently sold to its customers, the appropriate amount of brake cost previously incurred by the auto parts supplier is transferred from its balance sheet asset account (i.e., inventory) to its income statement expense account (i.e., cost of goods sold). To do this, management must apply one of several acceptable accounting cost flow methods that determines the amount of expense recorded for that year. This choice can be made by the auto parts supply company regardless of the actual physical flow of brakes in from its vendors and out to its customers. Two popular and contrasting inventory cost-flow method choices are last-in, first-out (LIFO) and first-in, first-out (FIFO).

Over time, inventory costs incurred by a company invariably change due to such dynamic factors as market supply and demand. Because the costs that an auto maker pays its suppliers for brakes often will have changed, the monetary amounts removed from its inventory balance sheet asset account and assigned to its income statement cost of goods sold expense account, for a particular period's production, will differ depending on whether an auto maker chose to execute the cost flow for brakes using a LIFO or FIFO method. And, because the cost of goods sold expense amount differs between the two methods, the net income amounts will also differ as will the balance sheet ending inventory asset amounts. This is because LIFO transfers the most recently incurred inventory asset costs to cost of goods sold expense—FIFO does the opposite.²

The other accounting method choice available to the management authors of corporate financial statements explored here pertains to the asset account of property, plant, and equipment (PPE). PPE appears on a company's balance sheet and represents the infrastructure from which business operations are conducted. As such, PPE must be depreciated over time in order to signal their use and management must make a choice as to what depreciation method to use.

In financial terms, depreciation is the multi-year allocation of PPE's cost as a charge against earnings. That is, a part of the recorded cost of PPE is periodically moved from the balance sheet asset account to an income statement depreciation expense account,

²Readers may refer to most any financial reporting text or trade book for numerical examples of LIFO vs. FIFO.

decreasing that period's reported net income. The most important decision a manager must make in this regard is the rate of this cost allocation, established in part by the depreciation method chosen. The most popular depreciation methods available to managers are the straight-line (SL) method and one of many varieties of accelerated methods. The usual choice for the latter is the double-declining balance method (DDB). In short, an accelerated method assumes that PPE depreciates more significantly in its early years of use and less so in its later years, as opposed to evenly over time.

Accounting Estimate Options: Future Health Care Costs and Uncollectible Receivables

Besides the options related to accounting methods such as the two presented above, management preparers of annual report financial statements must make a number of accounting estimates in order to finalize their reported financial statement figures (Nolan, 2005; Lev *et al.*, 2010). Estimates are informed, but nonetheless, best approximations that must be made as of the end of each financial reporting period. Conservative estimates, in general, have a dampening effect on reported earnings—aggressive estimates, less so.

One estimate choice explored here pertains to the requirement that companies record an obligation for, as of a financial statement's report date, the future healthcare benefits earned by and owed to employees (both current and retired). There are a host of estimates that must be made to arrive at a monetary value for that obligation, including: the expected mortality and health of a company's current and retired workforce, future healthcare cost trends, and projected rates of return on any funds set aside for funding those future benefit payments. Companies are required to disclose the key estimates they make in arriving at the yearly, related balance sheet liability (i.e., obligation) and income statement expense (i.e., this year's increase in the benefit obligation). Moreover, the specific estimate pertaining to future healthcare cost trends can have a potentially material effect on related financial statement amounts. Thus, companies must present a sensitivity analysis (if material), disclosing the expense and liability effects of a $\pm 1\%$ change in their projected trend for those healthcare costs. Data presented in that disclosure is used in this study.

A second financial reporting accounting estimate choice that is assessed does not normally prompt any such reported sensitivity analysis. Thus, this study operationalizes its own. The account of interest pertains to accounts receivable reported on the balance sheet, representing amounts owed to a company by its customers. Companies are required to report accounts receivable at the projected, net collectible amount. This requirement is rooted in the reality that not all amounts owed will always be collected. Therefore, an estimate of those uncollectible amounts must be made so that the balance sheet asset (i.e., accounts receivable) is not overstated beyond the cash inflows expected to be received from customers. The amount estimated as uncollectible by a company is reported as an offsetting deduction to the accounts receivable asset, serving to also create a yearly income statement charge. As new accounts receivable are generated, this adjustment process is repeated. Similar to the required sensitivity analysis noted above for projected healthcare costs, the financial statement effects of modifying, by one percentage point up and down, the estimate of uncollectible accounts receivable already in a company's financial statements is explored here.

Table 1 summarizes this study's four foci—management choices pertaining to two common accounting *methods* and two common accounting *estimates*. Specifically, this study investigates what a company's balance sheet and income statement would have reported if:

- instead of adopting LIFO, management had chosen to adopt FIFO,
- instead of adopting straight-line depreciation, management had adopted the accelerated depreciation method they use on their corporate income tax return,
- there had been a $\pm 1\%$ difference in the estimate of healthcare cost trends, and if
- there had been a $\pm 1\%$ difference in the estimate of uncollectible accounts receivable.

For published financial statements, management discretion resides in all four of these contexts but they are not the only areas wherein such discretion resides. For example, companies must also make choices pertaining to: the existence and magnitude of any contingent liabilities; if and to what extent goodwill might be impaired; the market value of incentive compensation awards; the fair values of certain financial instruments; the proper classification of long-term leases; the likelihood of realizing any existing future tax benefits; the marketability of inventory on hand; and others. Importantly, all four of those focused on here have balance sheet and income statement effects and appear in the top half of those frequently occurring CAPs identified by Holtzman (2007) and Levine and Smith (2011).

Table 1
Financial Foci for Assessing Impact of Discretionary Financial Reporting Choices

Balance Sheet Account	Manager Discretion: Method or Estimate	Income Statement Account Influenced	Bandwidth Focus
Inventory asset	Inventory cost flow method	Cost of goods sold	LIFO: Size and change in LIFO reserve
Accounts receivable asset	Assumed level of uncollectibles	Bad debts expense	Effect of $\pm 1\%$ change in assumed uncollectibles
Property plant and equip. asset	Method of depreciation	Depreciation Expense	Use of accelerated tax-based depreciation
Health care liability	Assumed future health care costs	Benefits Expense	Effect of $\pm 1\%$ change in future healthcare costs

This table summarizes the four balance sheet accounts analyzed in the study. For each account, the decision point made by management and the related income statement account are identified, along with the analysis criteria applied in the study.

SAMPLE

A subsample of S&P 500 firms for the year 2012 is used to evaluate the financial reporting bandwidth created by these four financial reporting choices. Because the aim is to provide a descriptive evaluation of how large the potential bandwidth of an array of annual net income-based metrics might be, conditional on these specific items, the S&P 500 firms that presented LIFO-related inventory cost-flow data for 2012 are the final sample.³ Drawing upon financial data from Compustat, 89 such firms were identified. Data pertinent to evaluating this study's focal financial ratios was also collected from Compustat. The industry dispersion of the sample companies is reported in Table 2 along with the mean levels of inventory, receivables, and fixed assets scaled by total assets for the overall S&P 500 population and for the 89 sampled firms.⁴ Those comparisons point to the final sample being similar, on average, to the larger population from which they were drawn. There are some exceptions. In particular, companies in the energy industries (i.e., "Chemicals" and "Petroleum and Natural Gas") tend to adopt LIFO more often than those in other industries likely due to historically escalating commodities' costs. Conversely, financial services and real estate holding firms are not in the final sample due to their lack of material inventory amounts.

MEASUREMENT OF FINANCIAL REPORTING BANDWIDTH

Several approaches to ascertain the bandwidth of the monetary amounts for the four items above were employed. Each approach, customized to its unique context, draws on public data.

LIFO vs. FIFO Inventory Methods

The Compustat data pertaining to the "LIFO reserve" was used for investigating the LIFO vs. FIFO inventory cost-flow method accounting choice. By definition, that monetary figure represents the difference between the LIFO-derived inventory amount reported on a balance sheet versus what that amount would have been if a FIFO accounting method had been chosen. The LIFO reserve is a required disclosure, but only for firms that use LIFO (i.e., there is no equivalently required "FIFO reserve"). It has been well-documented that this disclosure conveys information useful to investors (e.g., Jennings *et al.*, 1996; Guenther and Trombley, 1994).

³The sample is limited to only firms that use LIFO due to the required disclosures those LIFO firms must make and which are necessary to estimate net income's sensitivity to that choice.

⁴Two points to note at this juncture: (1) Companies do not tend to isolate the health care liability in their published balance sheets, and thus, descriptive, specific amounts for it are not reported here; (2) Throughout the analyses, mean values are reported instead of median values. It is worth noting that median values yield similar overall inferences, but with dampened magnitudes of changes.

Table 2
Sample Composition and Descriptive Data by Industry

Industry	No. of S&P 500 Cos.		%	No. of LIFO Cos.	%	% of LIFO to S&P 500		Inventory to Assets		Receivables to Assets		PPE to Assets	
	S&P 500 Cos.	%				LIFO	%	S&P 500	Sample	S&P 500	Sample	S&P 500	Sample
Food Products	18	3.6	5.6	5	27.8	0.126	0.132	0.097	0.088	0.203	0.222		
Beer and Liquor	6	1.2	1.1	1	16.7	0.116	0.205	0.076	0.137	0.155	0.115		
Tobacco Products	4	0.8	3.4	3	75.0	0.117	0.077	0.033	0.013	0.097	0.070		
Recreation	6	1.2	--	0	--	0.052	--	0.129	--	0.245	--		
Printing and Publishing	2	0.4	--	0	--	0.014	--	0.107	--	0.244	--		
Consumer Goods	10	2.0	6.7	6	60.0	0.123	0.100	0.140	0.145	0.187	0.189		
Apparel	6	1.2	--	0	--	0.161	--	0.115	--	0.150	--		
Healthcare Pharma and Med. Equip.	39	7.8	3.4	3	7.7	0.070	0.073	0.112	0.091	0.134	0.167		
Chemicals	12	2.4	10.1	9	75.0	0.112	0.120	0.130	0.147	0.328	0.322		
Textiles	0	--	--	0	--	--	--	--	--	--	--		
Constr. and Constr. Materials	12	2.4	4.5	4	33.3	0.236	0.120	0.131	0.138	0.193	0.220		
Steel Works etc.	4	0.8	4.5	4	100.0	0.161	0.161	0.100	0.100	0.401	0.401		
Fabricated Prod. and Machinery	16	3.2	9.0	8	50.0	0.142	0.136	0.196	0.233	0.135	0.151		
Electrical Equipment	3	0.6	1.1	3	33.3	0.088	0.066	0.173	0.098	0.120	0.108		
Automobiles and Trucks	7	1.4	3.4	3	42.9	0.110	0.050	0.249	0.368	0.248	0.259		
Aircraft Ships and Railroad Equip	6	1.2	4.5	4	66.7	0.212	0.150	0.145	0.155	0.127	0.126		
Precious Metals Mining	4	0.8	2.3	2	50.0	0.079	0.047	0.034	0.030	0.604	0.607		
Coal	2	0.4	1.1	1	50.0	0.027	0.020	0.059	0.072	0.775	0.804		
Petroleum and Natural Gas	33	6.6	13.5	12	36.4	0.038	0.065	0.088	0.127	0.699	0.593		
Utilities	35	7.0	--	0	--	0.021	--	0.043	--	0.667	--		
Telecommunications and Media	18	3.6	--	0	--	0.011	--	0.070	--	0.266	--		
Personal and Business Services	42	8.4	--	0	--	0.004	--	0.134	--	0.104	--		
Business Equipment	50	10.0	2.3	2	4.0	0.072	0.038	0.126	0.155	0.127	0.071		
Business Supplies/Shipping	10	2.0	5.6	5	50.0	0.106	0.085	0.139	0.138	0.302	0.325		
Transportation	12	2.4	--	0	--	0.010	--	0.125	--	0.534	--		
Wholesale	8	1.6	6.7	6	75.0	0.252	0.293	0.221	0.233	0.168	0.088		
Retail	35	7.0	7.9	7	20.0	0.258	0.220	0.052	0.039	0.374	0.438		
Restaurants Hotels Motels	7	1.4	--	0	--	0.044	--	0.057	--	0.468	--		
Financials Insur. and Real Estate	85	17.0	--	0	--	0.023	--	0.249	--	0.023	--		
All Other	8	1.6	3.4	3	37.5	0.033	0.054	0.145	0.227	0.272	0.147		
500	100.0	100.0	100.0	89	17.8								

Table reports composition of the sample relative to the S&P 500. Industry groupings follow those reported by Fama and French (1997). The final sample was selected based on the use of LIFO inventory accounting (89 firms).

As an example of how a LIFO reserve disclosure is used in this 2012 sample, The Kroger Co. reported a LIFO reserve of \$1.043 billion, up from \$0.830 billion in 2011. With a change in the opposite direction, Exxon Mobil reported a \$21.3 billion LIFO reserve, down from \$25.6 billion the year before. For both companies, the mere existence of a LIFO reserve indicates that inventory under FIFO would have been reported at a higher monetary amount on their balance sheets had that method been chosen instead of LIFO. This insight is extended in this study. In particular, for every dollar by which a company's ending inventory on the balance sheet differs between the two methods, the cumulative cost of goods sold expense deductions taken on income statements, over the years the company has used LIFO, will also differ by that same amount. It is for this reason that the *change* in the LIFO reserve from one year to the next is equal to that year's isolated effect on the cost of goods sold expense account due to the choice of LIFO versus FIFO. For Kroger, the change in the LIFO reserve from 2011 to 2012 was \$213 million (\$1.043 - \$0.830 billion). Thus, the cost of goods sold income statement expense amount for 2012 would have been \$213 million lower under a FIFO choice. Since a company's unit costs to acquire and/or manufacture its inventory do not remain static over time, both the ending inventory asset and cost of goods sold expense amounts often differ quite substantially between the two cost-flow methods.

With this understanding, the reported LIFO reserve data is used to establish how a company's 2012 total assets and total stockholders' equity, both on the balance sheet, would have been different if they had used FIFO, not LIFO. The extent to which each company's 2012 reported net income would have been different due to cost of goods sold expense account differences was also determined. For these respective accounts the following adjustments were applied:

- A. Ending inventory balance sheet increase = LIFO reserve,
- B. Ending cash balance sheet decrease = LIFO reserve \times 35% statutory income tax rate
- C. Net increase to total assets = A less B,
- D. Decrease in cost of goods sold expense on the income statement = LIFO reserve less prior year LIFO reserve,
- E. Increase to reported net income = D \times (1 - 35% statutory income tax rate),
- F. Increase to stockholders' equity = LIFO reserve \times (1 - 35% statutory income tax rate).

These accounts were used, and these adjustments undertaken, for each of the 89 sampled firms. The pertinent average monetary amounts, as reported by companies and after the FIFO conversions, are noted in Table 3, Panel A. On average, there would have been an inventory asset account increase of \$856 million, or 27% above reported amounts. For the cost of goods sold and net income amounts, the average decrease to the former would have been \$155.9 million and a \$101.3 million average increase to the latter, 0.4% and 4.0% changes, respectively.

Table 3
Estimated Financial Statement Effects from a Modification in Accounting Method

Panel A: Inventory Analysis: Effects from the use of LIFO vs. FIFO

<i>LIFO Reserve (\$ Millions):</i>	2011	2012	Change
	\$1,012.4	\$ 856.5	\$ (155.9)

<i>2012 Change in Key Accounts and Subtotals (\$ millions):</i>	As Reported	After Adjustment	Change
Inventory	\$ 3,111.2	\$ 3,967.7	\$ 856.5
Total Assets	\$ 43,019.9	\$ 43,576.6	\$ 556.7
Stockholders' Equity	\$ 15,047.0	\$ 15,603.8	\$ 556.7
Cost of Goods Sold	\$ 29,506.6	\$ 29,350.8	\$ (155.9)
Net Income	\$ 2,524.3	\$ 2,625.6	\$ 101.3

Notes: The LIFO versus FIFO balance sheet effects will be reflected in: (1) Total Assets due to different balances for Ending Inventory and for Cash (the IRS does not permit LIFO if it is not also used for published financial reports thus, the latter assumes all related income taxes owed arising on the tax return are paid); and (2) as is true for all Net Income effects, those effects all flow to the Retained Earnings balance sheet account which is a part of Stockholder's Equity. The final point is that, in general, annual Net Income figures would be higher under FIFO versus LIFO due to rising inventory costs during a given year. In the sample, the opposite is true for 2012 as evidenced by the LIFO reserve decrease from 2011 to 2012—signaling a general decline in inventory unit costs and/or substantial decreases in inventory quantities on hand at year end.

Table 3 (con't)

Panel B: Property Plant and Equipment Analysis: Use of Accelerated vs. Straight-line

	2011	2012	Change
<i>Estimated Accumulated Depreciation under Accelerated Method:</i>			
	\$4,283.1	\$4,890.7	\$ 607.6
<i>Key Accounts and Subtotals (\$ millions):</i>			
	As Reported	After Adjustment	Change
Property, Plant and Equipment, Gross	\$ 24,315.0	\$ 24,315.0	--
Accumulated Depreciation	\$ 10,834.5	\$ 15,725.3	\$ 4,890.7
Property, Plant and Equipment, Net	\$ 13,480.5	\$ 8,589.8	\$ (4,890.7)
Total Assets	\$ 43,019.9	\$ 38,129.2	\$ (4,890.7)
Deferred Tax Liability	\$ 1,711.8	--	\$ (1,711.8)
Stockholders' Equity	\$ 15,047.0	\$ 11,868.1	\$ (3,179.0)
Depreciation Expense	\$ 1,276.5	\$ 1,884.1	\$ 607.6
Net Income	\$ 2,524.3	\$ 2,129.4	\$ (394.9)

Straight-line versus Double-declining-balance Depreciation Method for PPE

As noted earlier, both the SL and DDB depreciation methods are permissible. The two methods result in two different annual depreciation expense amounts and as a consequence, different annual earnings figures and different balance sheet PPE asset amounts. Notably, the former method is frequently chosen by a company for use in its published financial statements and the latter, or a variant of it, is the one often chosen by a company for use in its income tax return.⁵

Whichever method is used to calculate the depreciation reported on the income statement, it is that amount that must be used to derive reported net income which in turn is used to derive the income tax expense figure also reported therein. Similarly, whichever depreciation method is used in the tax return is the one that produces the amount that must be used in the tax-return derived income taxes owed (or paid) to the tax authorities. Therefore, corporate income tax expense will not equal income taxes owed (or paid) for a given year when companies apply different depreciation methods for those two filings. Both tax amounts, the one expensed and the one due to be paid, must be disclosed and reconciled in a company's annual report financial footnotes. That reconciliation was used to derive the as-if depreciation expense that would have been reported on the annual report income statement had the tax return accelerated depreciation method been used for it.

In particular, from each company's financial statement footnote disclosures pertaining to its deferred income tax reconciliation details, the one figure therein associated with depreciation was hand-collected from each company's 10-K and used. "Deferred taxes" refers to the temporary difference between a company's annually calculated income tax expense and its annually calculated income taxes owed (or paid) to the tax authorities. The amount of any period's temporary difference due to a depreciation method choice difference, as captured in a "deferred tax" required footnote, is merely a function of the income tax rate applied to the two differing depreciation amounts. For depreciation method adjustment calculation purposes here, the U.S. statutory corporate income tax rate of 35% was used.⁶ Using that footnote data, the additional accelerated depreciation expense amount was estimated as:

⁵Jackson *et al.* (2009) examine the economic consequence of choosing one depreciation method over another. They find that capital investments are significantly lower for firms that choose the straight-line method of depreciation.

⁶Companies' effective income tax rates can be: (a) higher or lower than the statutory 35% rate, (b) different from each another, and (c) the magnitude of either of these two differences can differ from year to year, all due to the unique operating contexts of companies. As an alternative, the average effective tax rate was also used, computed as the reported expense for taxes divided by net income before tax. The impact on the bandwidth estimates reported here does not affect this study's general conclusions.

$$\left[\begin{array}{l} \text{2012 year-} \\ \text{end} \\ \text{Deferred tax} \\ \text{liability} \\ \text{amount} \\ \text{driven by} \\ \text{depreciation} \end{array} - \begin{array}{l} \text{2011 year-} \\ \text{end} \\ \text{Deferred tax} \\ \text{liability} \\ \text{amount} \\ \text{driven by} \\ \text{depreciation} \end{array} \right] \div 35\% = \begin{array}{l} \text{If positive (negative),} \\ \text{the amount by which} \\ \text{2012 income tax return} \\ \text{depreciation (i.e., DDB)} \\ \text{was greater (less) than} \\ \text{the 2012 income} \\ \text{statement depreciation} \\ \text{(i.e., SL) amount.} \end{array}$$

The inferred DDB versus SL depreciation expense amounts were derived for each sample firm. The average SL reported amounts, and the DDB adjusted amounts, are presented in Table 3, Panel B along with the related effects in other pertinent parts of the companies' financial statements if DDB had been used instead of SL. In sum, had tax-based DDB been used for financial statement purposes, the average total assets of the sample companies would have been lower by \$4.9 billion. On average, depreciation expense would have been \$607.6 million higher and net income would have been lower by \$394.9, a 15.6 percent decline from the reported amount.

Estimated Uncollectible Accounts Receivable

As noted earlier, companies must estimate the monetary amount of their accounts receivable that experience suggests will not be collected. Clearly, a company would not make a credit sale to a customer they believed *ex ante* would not pay. But after a credit sale, events sometimes occur that affect collectability (e.g., bankruptcy). Companies that carry accounts receivable must, at the end of each fiscal year, estimate their uncollectible accounts before actually having evidence pertaining to which of their specific customers might not pay. On the balance sheet, that estimate comprises an allowance for doubtful accounts that is an offset against the gross accounts receivable asset account. As of each year end, if more receivables are estimated to be uncollectible than was estimated the prior year, an increase in the allowance account must be made to reflect that and an expense (e.g., a bad debt expense) is recorded in that year's income statement.⁷ Companies use various heuristics to estimate their year-end allowance account amount. In general, a financially conservative company may be more pessimistic, generating a higher estimate for uncollectible accounts than a more optimistic, financially aggressive company.

For each firm in the sample, the year-end allowance account amount was hand-collected and used in determining what percentage of the year-end gross accounts

⁷Technically, the comparison of the current year estimate is against the prior year, less any specific accounts receivable written off and charged against the prior year's allowance account balance. For interested readers, Jackson and Liu (2010) provide an analysis of firms' reported write-offs and bad debt expense for 1980-2004.

receivable it represented. To that percentage a 1% factor was added and subtracted. The use of a 1% factor may appear arbitrary, but the intent was to evaluate what would be deemed a reasonable shift in the percentage of allowance/gross accounts receivable across the sample (this is similar to that required for healthcare cost projections noted earlier and chronicled in the next section). For the 89 sampled firms, the reported average for this metric was 2.12%, ranging from zero to 17.9%. To illustrate, the allowance/gross accounts receivable percentage for Colgate Palmolive in 2012 was 3.53% and this study explored the alternative effects of it being raised to 4.53% and lowered to 2.53%. For Monsanto Co., the percentage was 8.27% and for Johnson Controls, 1.06%. In each instance, the effects of a single percentage point higher (lower) decreases (increases) a balance sheet's reported net accounts receivable asset, and thus decreases (increases) reported total assets. Concurrently, this 1% change increases (decreases) bad debt expense, thus decreasing (increasing) reported net income.

These adjustments were undertaken for each sample company. The pertinent average monetary amounts, as originally reported and after adjustment, are reported in Table 4, Panel A. The effect for these changes are not as large as what was observed for inventory or the PPE depreciation, but substantial, nonetheless. With a +1% (-1%) change in the estimate, net income drops (increases) by \$54.3 (\$46.0) million, on average just over a 2.1% (1.8%) change.

Employee Healthcare Cost Trend Estimates

The financial statement effects of a $\pm 1\%$ change in estimated future healthcare costs for a company are not reported by Compustat. Thus, for the sample companies the healthcare disclosures in each of their respective 2012 annual reports were manually reviewed and gathered. Two challenges existed. First, companies are required to make this healthcare cost trend sensitivity disclosure only if there would have been a material financial statement effect. Thirty of the 89 companies either stated there would be no material effect or had no employee healthcare plan. For these companies, a zero financial estimation adjustment was imputed.

Second, neither Compustat, nor any of the other 59 remaining sample companies' annual reports, depicted specific line items in their financial statements pertaining to employee healthcare benefit-related liabilities and expenses. The pertinent amounts are comingled with other varied line items. Thus, the healthcare cost data presented here pertains to just the affected financial statement totals or subtotals. The summary of the estimates on healthcare cost assumptions are reported in Panel B of Table 4. Evident from the analysis is that the average effect on reported net income was small. For a +1% (-1%) change in healthcare cost trend estimates, net income would have decreased (increased) by just \$4.1 million (\$3.3 million), or about +0.2% (-0.2%).

Table 4
Estimated Financial Statement Effects from a Modification in Accounting Estimate

Panel A: *Receivables Analysis: Effects of 1 Percent Change in Allowance for Doubtful Accounts*

Key Accounts and Subtotals (\$ millions):	1% Increase in Allowance		1% Decrease in Allowance	
	As Reported	After Adjustment	Change	After Adjustment
Accounts Receivable (gross)	\$ 8,356.6	\$ 8,356.6	---	\$ 8,356.6
Allowance for Doubtful Accounts	\$ 135.9	\$ 219.5	\$ 83.6	\$ 65.1
Accounts Receivable (net)	\$ 8,220.7	\$ 8,137.1	\$ (83.6)	\$ 8,291.5
Expected Uncollectibles	2.12% ^a	3.12%	1.00%	1.39% ^b
Total Assets	\$ 43,019.9	\$ 42,965.6	\$ (54.3) ^c	\$ 42,949.1
Stockholders' Equity	\$ 15,047.0	\$ 14,992.7	\$ (54.3)	\$ 15,093.1
Net Income	\$ 2,524.3	\$ 2,470.0	\$ (54.3)	\$ 2,570.4

Notes:

- a This 2.12 % figure is not equal to \$135.9/\$8,356.6 because it is the average of the actual company-specific ratios of their allowance to gross accounts receivable amounts.
- b The 1.39% is not 1.12% and the -0.73% is not -1.0% due to the fact that some sample company's actual allowance-to-gross-accounts-receivable ratio was less than 1% and in the minus 1.0% analysis adjustments below 0.0% were not made.
- c Although allowances for uncollectible accounts receivable are not tax deductible when estimated, they do represent future tax deductions that are reflected in a corporate balance sheet as a deferred tax asset, thus, mitigating the decrease in total assets due to the initial allowance amount. Thus, \$54.3 = \$83.6 (1-.35).

Table 4 (con't)

Panel B: *Healthcare Liability Analysis: Effects of 1 Percent Change in Cost Assumption*

Accounts and Subtotals (\$ millions):	1% Increase in Healthcare Cost Assumption		1% Decrease in Healthcare Cost Assumption	
	As Reported	After Adjustment	Change	After Adjustment
Deferred Tax Asset	(a)	(a)	\$ 22.8	(a)
Total Assets	\$ 43,019.9	\$ 43,042.7	\$ 22.8	\$ 42,998.8
Reported Healthcare Liability	(a)	(a)	\$ 65.2	(a)
Total Liabilities	\$ 27,972.9	\$ 28,038.1	\$ 65.2	\$ 27,915.5
Stockholders' Equity	\$ 15,047.0	\$ 15,004.7	\$(42.4)	\$ 15,084.3
Benefits Expense	(a)	(a)	\$ 6.2	(a)
Net Income	\$ 2,524.3	\$ 2,520.3	\$ (4.1)	\$ 2,527.6
				\$ 3.3

Note: The designation (a) indicates specific, identifiable amounts were not reported in these financial statement accounts by companies. Thus, no "after adjustment" new total is determinable except as the various financial statement totals are impacted as shown above.

PERFORMANCE METRIC EFFECTS

Thus far, the financial statement parts (both in the balance sheet and the income statement) impacted by the two accounting *method* choices and the two accounting *estimate* choices have been summarized in Tables 3 and 4. The primary focus therein is on the effects to the balance sheet totals for assets, liabilities, and stockholders' equity, along with the effect on net income. Attention is now turned to five key financial performance metrics that use that data—earnings per share (EPS), return on sales (ROS), asset turnover (AT), financial leverage (LEV), and return on equity (ROE). Table 5 presents the baseline, average amounts for these metrics in the first row, followed by the isolated effects from the four financial reporting choices. Furthermore, for the mean and median monetary changes, significance tests at confidence levels of 0.05 are reported.⁸

Three important insights surface. First, the magnitude of change in these five performance metrics is greatest due to the choices in accounting *methods* as opposed to accounting *estimates*. ROE, for instance, drops from 17.67% to 15.33% ($17.67\% - 2.34\%$) after adjustment to FIFO, and rises to 25.81% ($17.67\% + 8.14\%$) if DDB is used for depreciation. ROE movements due to changes in the estimates for uncollectible receivables and healthcare cost trends are not as large. Second, within each of the two accounting *method* choices, the bandwidth impact on the five performance metrics is substantial, especially for the depreciation *method* choice. The percentage change in the performance metrics, reported in the first row of each panel, clearly highlights the notable shifts that resulted, across the performance metrics. Third, the AT metric is least impacted by the bandwidth associated with choices in either *method* or *estimate*. This is perhaps not surprising, given the baseline size of the revenue and asset amounts that comprise this metric.

What are the combined effects from these four financial reporting accounting choices? Table 6 presents that codified insight. Because the estimates for both the uncollectible accounts receivable amounts and the healthcare liability cost trends can have either income decreasing (i.e., conservative) or income increasing (i.e., aggressive) effects, Table 6 separates those directional effects. For inventory and depreciation, the directional effects were only in a single direction. As in all prior analyses presented, net income effects utilize the statutory tax rate of 35%.

⁸Given the potential influence of significant outliers that may unduly influence results, the effect of the most extreme high and low observation for purposes on these significance tests were eliminated.

Table 5
Financial Ratio Changes

	Basic EPS (dollars)	Return on Sales: ROS (percent)	Asset Turnover: AT (multiples)	Financial Leverage: LEV (multiples)	Return on Equity: ROE (percent)
Value as Reported:	\$3.74	7.27%	1.231	3.540	17.67%
Panel A: Inventory Method (LIFO to FIFO)					
% Change	2.70%	1.90%	-2.10%	-8.40%	-13.20%
Mean	\$ 0.10*	0.14%	-0.026*	-0.299*	-2.34%*
75 th	\$ 0.05	0.01%	-0.002	-0.095	-0.01%
Median	\$ 0.00	0.00%	-0.006*	-0.039*	-0.30%*
25 th	\$ -0.03	0.00%	-0.019	-0.108	-1.41%
Panel B: Depreciation Method (SL to DDB)					
% Change	-24.60%	-16.60%	14.20%	60.30%	46.10%
Mean	\$ -0.92*	-1.21%*	0.175*	2.134*	8.14%
75 th	\$ 0.04	0.10%	0.180	0.788	6.24%
Median	\$ 0.78	-0.13%*	0.076*	0.224*	1.78%*
25 th	\$ 0.14	-0.59%	0.031	0.047	-0.00%

* t-statistics for means tests < 0.05;

* median sign test significant at < 0.05

ROS = Net income / Sales

AT = Sales / Total assets

LEV = Total assets / Stockholders' equity

ROE = Net income / Stockholders' equity

Amounts are also reported above for the 75th and 25th percentile quartile cutoffs.

Table 5 (concluded)
Financial Ratio Changes

	Basic EPS (dollars)	Return on Sales: ROS (percent)	Asset Turnover: AT (multiples)	Financial Leverage: LEV (multiples)	Return on Equity: ROE (percent)
Panel C: Allowance for Doubtful Accts. Receivable Estimate					
plus 1 percent:					
% Change	-1.60%	-0.70%	0.10%	5.60%	4.00%
Mean	\$ -0.06*	-0.05%*	0.001*	0.197*	0.71%
75 th	\$ -0.02	-0.05%	0.001	0.010	-0.10%
Median	\$ -0.05*	-0.08%*	0.001*	0.003*	-0.15%*
25 th	\$ -0.08	-0.12%	0.004	0.001	-0.26%
minus 1 percent:					
% Change	1.60%	1.20%	0.10%	-3.70%	-1.80%
Mean	\$ 0.06*	0.09%*	0.001*	-0.13*	-0.31%*
75 th	\$ 0.06	0.10%	0.001	0.00	0.25%
Median	\$ 0.03*	0.01%*	0.000*	0.00*	0.12%*
25 th	\$ 0.01	0.00%	0.000	-0.01	0.04%
Panel D: Health Care Trend Estimate					
plus 1 percent:					
% Change	0.00%	-0.30%	0.00%	2.00%	1.90%
Mean	\$ -0.01*	-0.02%*	-0.001*	0.072*	0.33%*
75 th	---	0.00%	0.000	0.012	3.09%
Median	\$ 0.00	-0.29%*	0.000	0.002*	0.05%*
25 th	\$ 0.00	-0.95%	-0.001	0.000	0.00%
minus 1 percent:					
% Change	0.30%	0.10%	0.10%	-1.60%	-1.50%
Mean	\$0.01*	0.01%*	0.001*	-0.057*	-0.27%*
75 th	\$0.00	0.78%	0.001	0.000	0.00%
Median	\$0.00*	0.19%*	0.001*	-0.002*	-0.06%*
25 th	\$0.00	0.00%	0.000	-0.010	-0.30%

* t-statistics for means tests < 0.05; median sign test significant at < 0.05

ROS = Net income / Sales

AT = Sales / Total assets

LEV = Total assets / Stockholders' equity

ROE = Net income / Stockholders' equity

Amounts are also reported above for the 75th and 25th quartile cutoffs

Table 6
Summary Effects of Restatements for Inventory Method and PPE Depreciation Method with both a Conservative and Aggressive Restatement Estimate for Uncollectible Accounts Receivable (AR) and Health care Cost (HC) Trends

	Key Dollar Account Effects			Performance Ratio Metric Effects				
	Total Assets (dollars)	Owners* Equity (dollars)	Net Income (dollars)	Basic EPS (dollars)	Return on Sales ROS (percents)	Turnover: AT (multiples)	Financial Leverage: LEV (multiples)	Return Equity ROE (percents)
Value As Reported:	\$43,019.9	\$15,047.0	\$2,524.3	\$3.74	7.27%	1.231	3.540	17.67%
Panel A: Conservative (AR and HC)								
% Change	-10.1%	-18.1%	-13.8%	-23.4%	-15.6%	10.9%	55.40%	46.30%
Mean Change	-4,365.5*	-2,718.9*	-348.3*	-0.87*	-1.13%*	0.135*	1.961*	8.18%
75 th	-325.0	-195.1	14.0	0.03	0.08%	0.164	0.506	4.01%
Median Change	-1,092.5*	-769.4*	-32.0*	-0.13*	-0.18%*	0.080*	0.123*	0.40%
25 th	-3,232.0	-1,976.9	-212.0	-0.50	-0.79%	0.022	0.023	-0.85%
Panel B: Aggressive (AR and HC)								
% Change	-10.0%	-16.9%	-9.7%	-20.6%	-13.2%	10.8%	28.5%	25.30%
Mean Change	-4,308.0*	-2,539.0*	-244.3*	-0.77*	-0.96%*	0.133*	1.008*	4.47%
75 th	-284.4	-135.6	45.4	0.13	0.34%	0.163	0.458	4.44%
Median Change	-1,089.9*	-526.0*	-3.4	-0.02	-0.02%	0.070*	0.098*	1.25%*
25 th	-3,198.2	-1,790.6	-94.9	-0.35	-0.56%	0.022	0.006	-0.53%

* t-statistics for means tests < 0.05; median sign test significant at < 0.05

Before discussing the insights from Table 6, four reminders are warranted. First, various financial reporting choices can have opposite effects (e.g., see some of the impacts depicted in Table 5), thus dampening the combined effect on a performance metric. Second, only the effects of this study's four financial reporting choice contexts were investigated. Although these contexts are acknowledged as important and as widely existing across the spectrum of corporate financial reports, they are but four of the 28 that Holtzman (2007) identifies and just four of the 25 that Levine and Smith (2011) highlight. Third, the effects highlighted here were ascertained for a single year as if the financial reporting choice changes studied were manifested in that year, in comparison to the choices actually made. Lastly, this study focused on only 89 companies from the S&P 500, for one year—specific results for other years and for the thousands of publicly-held companies not in the S&P 500, may be different although conceptually similar.

Table 6 provides several distinct insights. First, the mean percentage change figures for all line items listed are $\geq 9.7\%$, in absolute terms. With the exception of ROE, the mean change for each is significantly different from zero at a five percent confidence level. Second, the LEV metric is impacted to the greatest extent (i.e., it has the highest percentage change). Third, total assets are substantially impacted but the impact is among the least across the line items presented. And fourth, and this pertains to one of the main motivations for this inquiry—i.e., CFOs' collective assertion that EPS could differ by 10 percent based on management's financial reporting choices (see Ryan, 2014; Dichev *et al.*, 2013 and 2016)—it can be seen from Table 6 that for this sample of firms, the EPS bandwidth is more in the neighborhood of about 20 percent for the sample year. There was, however, about an average 10 percent bandwidth effect for net income, the EPS numerator.

SAFEGUARDS

From the perspective of those who rely on the financial statements, there are two safeguards in play to dampen the likelihood that companies will exploitatively report the most preferential performance possible within the bandwidth discussed here. First, the four financial reporting options discussed in this study, along with the others that are available, necessitate that a company make specific financial reporting choices as a matter of both preference and policy and adequately disclose those choices in the financial statement footnotes. By convention and by rule, readers of financial statements can presume that the choices a company has made are consistently applied year after year unless informed otherwise by the company. This consistency principle dampens any compunction management might have to merely "shop around" for the most favorable financial reporting choice in one year and then again in the next. Second, when a company makes a change in a specific financial reporting choice and that change has a material financial statement effect, the company's external auditor must review the basis for that change (Hall and Aldridge, 2007). Accounting method or estimate changes are permitted but they must be grounded in defensible and articulated rationales. And if material, readers must be notified that a change has occurred and, if a change in method, the cumulative effect quantified and reported (FASB, 2005).

DISCUSSION

Financial reporting choices matter (e.g., Osma *et al.*, 2015). Financial statement amounts differ, and differ substantially, when allowable alternative accounting choices are made. Those financial statement differences do not represent “distortions,” as they are sometimes labeled (Gentry and Shen, 2010), but rather, they are indicative of acceptable and defensible financial reporting “bandwidth.” Thus, for readers of financial statements, especially non-accounting readers who rely on or avail themselves of financial statement data, it is important to:

1. Be aware that the monetary amounts reported in the financial statements are not as singularly precise as they look—they generally possess a substantial bandwidth;
2. Gauge the relevancy and potential magnitude of that bandwidth by reading beyond the basic financial statements—it is important, for example, to read in the company’s annual report (or their 10-K filed with the SEC), the:
 - discussion contained in the MD&A section that highlights the company’s “critical accounting policies,” and
 - pertinent financial statement footnotes that provide details about a financial statement line item (e.g., the inventory footnote that presents the LIFO reserve amount or the employee-benefits footnote that provides a discussion of some of the key estimates involved in making that liability estimate); and
3. Exercise care and conscientiousness when comparing financial results across companies and across time—it is important to assess the comparability (or lack thereof) of similar financial reporting choices having been made. Otherwise, comparisons are problematic at best and meaningless at worst.

The bandwidth effects here are most pronounced for the financial reporting choice related to accounting *method* versus accounting *estimate*. Four recommendations for regulators follow:

1. Similar to the “what if” inventory disclosures LIFO companies must make, require “what if” disclosures in the arena of other accounting *method* choices such as PPE depreciation, alternative marketable equity securities classifications (i.e., available for sale versus trading), and lease classifications.
2. Expand all required “what if” disclosures to include the effect on reported stockholders’ equity.
3. Present the required “what if” effects on all the financial performance metrics included in the narrative parts of a company’s 10-K and annual report.
4. The materiality threshold that triggers an accounting *estimate* sensitivity analysis disclosure should be applied on an all-combined, key estimates basis, not just each estimate on a stand-alone basis.

Using the financial statement adjustment process employed in this study, or a refined version thereof, researchers are encouraged to explore the bandwidth effects for different combinations of financial reporting choices, for different time periods, for larger samples, for different financial performance metrics, and for industry segments. Importantly, all such endeavors can serve to help markets and financial statement users recalibrate financial performance and mitigate any natural tendency to view net income

related performance metrics as a point-specific construct. In reality, reported net income is but an approximation within a feasible range, a feasible range that has not been fully reported and that warrants greater disclosure.

A few additional words of caution relating to the above point are warranted. The financial reporting choices that allow for some management discretion in the reporting of net income are not without bounds. In fact, the earnings effect of one accounting choice in one period, vis-à-vis its legitimate alternative choice, will eventually be reversed in future periods as the related transaction unwinds. For instance, DDB accelerated depreciation is only higher than straight-line depreciation in the early years of an asset's life. Or LIFO inventory accounting only differs from FIFO until that point in time when inventory is liquidated. As one reviewer noted, focusing on a single year largely ignores these subsequent-year implications. Implicit in the interpretation of the results, however, is that firms are active and growing and consistently replacing the assets and liabilities that lead to the net income bandwidth effects documented herein. The reversing effects that occur for an individual asset or liability, therefore, would be offset by new assets and liabilities presumably carrying the same accounting choices/treatments. In this spirit then, the results presented in this study can be interpreted as *how much* earnings could potentially differ from what was reported by a company in comparison to what would have been reported had the alternative four financial reporting choices been made.

Finally, for educators, particularly those in financial analysis courses, this study provides a set of insights that should be of interest to students. The foregoing summaries can be used to highlight for students the importance of understanding the inherent imprecision in data they may use in their financial modeling. They also might be used as a representative illustration of the sensitivity of common financial ratios to managerial accounting discretion.

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Understanding the Inner Muse: Integrating the Creative Self-Efficacy Literature189
 Brian Waterwall, Bryan Fuller, and Heather Budden

Although research has accumulated regarding antecedents and outcomes of creative self-efficacy (CSE), theoretical arguments and empirical findings have been mixed. This study reports a meta-analytic investigation of the nomological network of CSE involving 286 correlations obtained from 107 studies. Meta-analytic results for relations between CSE and both individual (Big Five personality, creative personality, creative identity, job self-efficacy, age, tenure, and education) and contextual (support for creativity, job complexity, job autonomy, transformational leadership, LMX, and expectations for creativity) antecedents of CSE, and between CSE and creativity are presented. Findings include an investigation of the moderating effects of research design (self- vs. other-report of creativity) and culture (individualistic vs. collectivistic) on the relationship between CSE and creativity. Individual characteristic analyses suggest that creative personality and openness to experience have a substantially stronger relationship with CSE than any other personality dimension. Regarding demographic predictors of CSE, education was the only demographic variable found to be related to CSE. Contextual predictor analyses indicate job design, leadership, and support variables have moderate, positive relationships with CSE. Outcome analysis results suggest the positive relationship between CSE and creative behavior is moderated by research design. Results do not support the view that the relationship between CSE and creativity is moderated by culture. Effect size estimates for creative role identity and creative personal identity were so strong as to raise questions about their discriminant validity. Implications for researchers and practitioners as well as suggestions for future research are discussed.

Net Income's Bandwidth: An Examination of Earnings-Based Performance Metrics211
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Published corporate financial statements are not as precise as they may appear. Corporate financial officers (CFOs) have opined that earnings per share for a company could be ten percent different, on average, if a company's management had made different choices regarding accounting methods and accounting estimates. This paper examines the potential range in several popular financial performance metrics (earnings per share, return on sales, asset turnover, financial leverage, and return on equity) pertaining to a sample of 89 S&P 500 companies, had their management made just four different, but feasible, financial reporting choices. Results indicate that the average bandwidth for a variety of earnings-related performance measures due to these combined alternative choices is actually greater than ten percent. Implications for non-financial managers, financial researchers, regulators, and educators are presented.

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